

## **Esmat Alemzadeh**

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### **Qualifications**

2018 Ph.D., Biotechnology Department, School of Veterinary Medicine, Shiraz University, Shiraz, Iran.

2012 M.Sc., Biotechnology Department, Imam Khomeini International University, Qazvin, Iran.

2007 B.Sc., Plant Pathology Department, Zabol University, Iran.

### **Research Interest**

Tissue engineering and regenerative medicine, Orthopaedic pathology, Gene and drug delivery, Pharmacognosy, Biosensor

### **Publications**

1. Jahani, M., **Alemzadeh, E.**, Motamed Rezaei, O., Alemzadeh, E. 2013. First report of *Alternaria necrosis* of *Berberis vulgaris* in Iran. International Journal of AgriScience. 3(10):743-745.
2. Haddad, R., **Alemzadeh, E.**, Ahmadi, A. R., Hosseini, R. and Moezzi, M. 2014. Identification of Chlorophyceae based on 18S rDNA sequences from Persian Gulf. Iranian Journal of Microbiology. 6(6):437-442.
3. **Alemzadeh, E.**, Haddad, R. and Ahmadi, A. R. 2014. Phytoplanktons and DNA barcoding: Characterization and molecular analysis of phytoplanktons on the Persian Gulf. Iranian Journal of Microbiology. 6(4):296-302.

4. Oryan A., **Alemzadeh E.**, Moshiri A. 2016. Biological properties and therapeutic activities of honey in wound healing: a narrative review and meta-analysis. *Journal of Tissue Viability*. 25(2):98-118.
5. Oryan A., **Alemzadeh E.** 2016. Therapeutic Options of Cutaneous Leishmaniasis. *Air & Water Borne Diseases*. 5:1.
6. Oryan, A., **Alemzadeh, E.**, Moshiri, A. 2017. Burn wound healing: current concepts, treatment strategies and future directions. *Journal of Wound Care*. 26(1):5-19.
7. Oryan A., **Alemzadeh E.** 2017. Effects of insulin on wound healing: A review of animal and human evidences. *Life Sciences*. 174:59-67.
8. Oryan A. **Alemzadeh E.**, Moshiri A. 2018. Potential role of propolis in wound healing: Biological properties and therapeutic activities. *Biomedicine & Pharmacotherapy*. 98:469–483.
9. **Alemzadeh E.**, Oryan A. 2018. Effectiveness of a *Crocus sativus* extract on burn wounds in rats. *Planta Medica*. doi: 10.1055/a-0631-3620.
10. Oryan A., **Alemzadeh E.**, Eskandari MH. 2018. Kefir accelerates burn wound healing through inducing fibroblast cell migration *in vitro* and modulating the expression of IL-1 $\beta$ , TGF- $\beta$ 1, and bFGF genes *in vivo*. *Probiotics and Antimicrobial Proteins*. doi: 10.1007/s12602-018-9435-6.
11. Oryan A., **Alemzadeh E.**, Tashkhourian J., Nami Ana F. 2018. Topical delivery of chitosan-capped silver nanoparticles speeds up healing in burn wounds: a preclinical study. *Carbohydrate Polymers*. 200:82-92.
12. Oryan A, **Alemzadeh E**, Moshiri A. 2019. Role of sugar-based compounds on cutaneous wound healing: what is the evidence? *J Wound Care*. 2;28(Sup3b):s13-s24. doi: 10.12968/jowc.2019.28.Sup3b.S13. PMID: 30900931.
- 13.

14. Oryan A, **Alemzadeh E**, Mohammadi AA, Moshiri A. 2019. Healing potential of injectable Aloe vera hydrogel loaded by adipose-derived stem cell in skin tissue-engineering in a rat burn wound model. *Cell Tissue Res.* 377(2):215-227. doi: 10.1007/s00441-019-03015-9.
15. Haddad R, **Alemzadeh E**, Ahmadi A, Mortazavi MS, Moezzi M, Alemzadeh E, Tamadoni Jahromi S. 2019. Molecular study of mollusca in Bandar Lengeh using 18S rRNA gene. *IJGPB.* 8 (2): 57-65.
16. **Alemzadeh E**, Oryan A, Mohammadi AA. 2020. Hyaluronic acid hydrogel loaded by adipose stem cells enhances wound healing by modulating IL-1 $\beta$ , TGF- $\beta$ 1, and bFGF in burn wound model in rat. *J Biomed Mater Res B Appl Biomater.* 108(2):555-567.
17. **Alemzadeh E**, Oryan A, Mohammadi AA. 2020. Hyaluronic acid hydrogel loaded by adipose stem cells enhances wound healing by modulating IL-1 $\beta$ , TGF- $\beta$ 1, and bFGF in burn wound model in rat. *J Biomed Mater Res B Appl Biomater.* 108(2):555-567.
18. Barghi M, **Alemzadeh E**. 2020. Role of Herbal Remedies in liver Fibrosis: What is the Evidence? *J Fasa Univ Med Sci.* 10(2): 2164-2178.
19. **Alemzadeh E**, Oryan A. 2020. Application of Encapsulated Probiotics in Health Care. *J Exp Pathol.* 1(1).
20. Oryan A, **Alemzadeh E**, Zarei M. Basic concepts, current evidence, and future potential for gene therapy in managing cutaneous wounds. *Biotechnol Lett.* 2019 Sep;41(8-9):889-898. doi: 10.1007/s10529-019-02701-6. Epub 2019 Jun 29. PMID: 31256273.
21. Oryan A, **Alemzadeh E**. 2020. Comparison of botulinum toxin type A and aprotinin monotherapy with combination therapy in healing of burn wounds in an animal model. *Mol Biol Rep.* 47(4):2693-2702.
22. **Alemzadeh E**, Oryan A. 2020. Smart Biomaterials and Systems for Bone Tissue Engineering. *EC ORTHOPAEDICS.* 11(7).

## Chapter

1. Oryan A., **Alemzadeh E.** 2017. Potential Mechanisms and Application of Honeybee Products in Wound Management: Wound Healing by Apitherapy. doi: 10.1007/15695-2017-38. Part of the Recent Clinical Techniques, Results, and Research in Wounds book series.

## Congresses

1. **Alemzadeh, E.,** Haddad, R., Ahmadi, A., Hosseini, R & Abdolaliyan, E. 2012. phylogenetic relationship of *Cochlodinium polykrikoides* using 18S ribosomal RNA gene sequences from Persian Gulf. The International Conference Pharmaceutical and Medical Biotechnology. Moscow
2. Ebadi, P., **Alemzadeh, E.,** 2016. Application of dehydrated amnion/chorion membrane for treatment of chronic diabetic ulcer: A review. 1<sup>st</sup> Congress of Infection and Immunity. Shiraz. Iran.
3. **Alemzadeh, E.,** Oryan, A., Ebadi, P. 2016. Nature's strongest super glue: an advance in wound care. 1<sup>st</sup> Congress of Infection and Immunity. Shiraz. Iran.

۴. **عالمزاده، ع. و حداد، ر.** (۱۳۸۹). رهاسازی هدفمند ژن با استفاده از نانوذرات DNA. همایش ملی نانو و توسعه صنعتی. قزوین.

۵. **عالمزاده، ع. حداد، ر. احمدی، ع. حسینی، ر و معزی، م.** (۱۳۹۰). جداسازی، خالص سازی و ارزیابی وضعیت رنگیزهای جلبک سبز *Chlorella sp.* از آب های خلیج فارس. دومین کنفرانس ملی علوم شیلات و آبزیان ایران. لاهیجان.

۶. **عالمزاده، ع. حداد، ر. احمدی، ع. حسینی، ر و معزی، م.** (۱۳۹۰). بررسی تنوع ژنتیکی جلبک سبز *Nannochloris sp.* آب های خلیج فارس با استفاده از توالی ژنی 18S rDNA. هفتمین کنگره بیوتکنولوژی ایران. تهران: ۱۸۵.

۷. **عالمزاده، ع. حداد، ر. احمدی، ع. حسینی، ر و معزی، م.** (۱۳۹۰). مطالعه بیولوژی و مولکولی جلبک سبز *Scenedesmus sp.* در آب های خلیج فارس با استفاده از توالی ژنی 18S rDNA. نخستین همایش ملی جلبک شناسی ایران. تهران.

۸. **عالمزاده، ع.** و حداد، ر. احمدی، ع و حسینی، ر. (۱۳۹۱). مطالعه بیولوژی و مولکولی جلبک سبز *Chlamydomonas sp.* خلیج فارس. دوازدهمین کنگره ژنتیک ایران. تهران.
۹. **عالمزاده، ع.** و حداد، ر. احمدی، ع. (۱۳۹۱). DNA بارکدینگ و فیتوپلانکتون‌ها: شناسایی و مطالعه مولکولی پنج گونه فیتوپلانکتون ساکن در آب‌های خلیج فارس. دوازدهمین کنگره ژنتیک ایران. تهران.
10. Azaryan E, Hanafi-Bojd MY, Mortazavi Derazkola S, **Alemzadeh E**, Emadian Razavie F, Naseri M. 2021. Synthesis of Hydroxyapatite nanorods using *Elaeagnus angustifolia* extract for biomedical applications. 8th International E-congress on Nanosciences and Nanotechnology. Mashhad. Iran.
11. Mozaffari S. **Alemzadeh E**. 2021. Dual drug loaded polycaprolactone electrospun nanofibers embedded with doxorubicin and berberine for drugs controlled release and preventing of cancer local recurrence. 8th International E-congress on Nanosciences and Nanotechnology. Mashhad. Iran.
12. Mozaffari S, Alemzadeh E, Syedabadi S, Gollandi M, **Alemzadeh E**, Hanafi-Bojd MY, Zarban A. 2021. Nanofiber composites of polycaprolactone carrying Levofloxacin Loaded Mesoporous Silica Nanoparticles and Berberine Enhanced Synergistic Effect and Improved Drugs Release Properties. 8th International E-congress on Nanosciences and Nanotechnology. Mashhad. Iran.
13. Karimi N, Khorashadizadeh M, Hanafi-Bojd MY, Hanafi-Bojd MY, **Alemzadeh E**. Controlle cefazolin from d release of electrospun polycaprolactone/double shelled hollow mesoporous silica nanoparticles composite mats for regenerative purpose. 8th International E-congress on Nanosciences and Nanotechnology. Mashhad. Iran.

## Thesis:

1. Design of Doxorubicin-Berberin sustained release system using Polycaprolactone-based electrospun fibers and evaluating their concomitant cytotoxic effects on MCF-7 breast cancer cells
2. Designing polyvinyl alcohol-mesoporous silica nanoparticles hybrid nanofiber scaffold capable of controlled releasing of cefazolin for tissue engineering and regenerative medicine
3. Design, application and evaluation of restorative potential of nanocomposite scaffolds containing extract of *elaegnus angustifolia* to induce dentinogenic differentiation of dental pulp stem cells

## Genes in the NCBI GenBank record

*Chlamydomonas* sp. E RH-2012 18S ribosomal RNA gene  
GenBank, ACCESSION NUMBER: [JQ996419](#)

*Neochloris aquatica* isolate D 18S ribosomal RNA gene  
GenBank, ACCESSION NUMBER: [JQ996418](#)

*Caecitellus pseudoparvulus* isolate C 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JQ996417](#)

*Rhodella maculata* isolate B 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JQ996416](#)

*Cochlodinium polykrikoides* isolate A 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JQ996415](#)

*Chlorella sorokiniana* isolate RH/Chs4 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JX049353](#)

*Chlamydomonas* sp. isolate RH/Chs9 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JX083956](#)

*Picochlorum* sp. Clone RH/Um14 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JX083953](#)

*Picochlorum* sp. Clone RH/Ue20 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JX083957](#)

*Picochlorum* sp. Clone HA/EA4 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [KC962163](#)

*Picochlorum* sp. Clone HA/EA 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [KC962160](#)

*Picochlorum* sp. Clone HA/EA3 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [KC962162](#)

*Nannochloris atomus* Clone HA/BE1 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [KC904765](#)

*Nannochloris atomus* Clone HA/BE3 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [KC904767](#)

*Amphora* sp. Clone RH-2012 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JX049354](#)

*Nitzschia* sp. Clone RH/Ns13 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JX083955](#)

*Arcocellulus cornucervis* Clone RH/Us8 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JX049355](#)

*Isochrysis galbana* Clone RH/Ig3 18S ribosomal RNA gene  
GenBank ACCESSION NUMBER: [JX049352](#)

*Uronema marinum* Clone HA/BA 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC934942](#)

*Oithona* sp. Clone RH/Os12 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [JX083952](#)

*Brachidontes variabilis* Clone HA/BL1 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904728](#)

*Planaxis sulcatus* Clone RH/Us8 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [JX049355](#)

*Brachidontes variabilis* Clone HA/BL4 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904731](#)

*Mya truncata* Clone HA/BL6 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904733](#)

*Serpulorbis imbricatus* Clone RH/Us8 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904735](#)

*Planaxis sulcatus* Clone HA/BL10 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904737](#)

*Brachidontes variabilis* Clone HA/BL12 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904739](#)

*Planaxis sulcatus* Clone HA/BL14 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904741](#)

*Brachidontes variabilis* Clone HA/BL16 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904743](#)

*Neocalanus cristatus* Clone HA/Q1 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904745](#)

*Neocalanus cristatus* Clone HA/Q3 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904747](#)

*Eudiptomus* environmental sample Clone HA/Q5 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904756](#)

*Neocalanus cristatus* Clone HA/BU2 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904749](#)

*Neocalanus cristatus* Clone HA/BU4 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904751](#)

*Menesiniella aquila* Clone HA/BU6 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904753](#)

*Subeucalanus pileatus* Clone HA/N1 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904758](#)

*Neocalanus cristatus* Clone HA/N3 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904760](#)

*Eudiptomus* environmental sample Clone HA/N5 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904762](#)

*Eudiptomus* environmental sample Clone HA/N7 18S

*Paecilomyces carneus* Clone RH/Us10 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [JX049356](#)

*Euterpina acutifrons* Clone RH/Ea11 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [JX083954](#)

*Pinctada albina* Clone HA/BL2 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904729](#)

*Planaxis sulcatus* Clone RH/Us8 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904730](#)

*Brachidontes variabilis* Clone HA/BL5 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904732](#)

*Batillaria zonalis* Clone HA/BL8 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904734](#)

*Neocalanus cristatus* Clone HA/BL9 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904736](#)

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*Neocalanus cristatus* Clone HA/Q2 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904746](#)

*Neocalanus cristatus* Clone HA/Q4 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904755](#)

*Centropages furcatus* Clone HA/Q6 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904757](#)

*Acartia pacifica* Clone HA/BU3 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904750](#)

*Acartia pacifica* Clone HA/BU5 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904752](#)

*Pseudodiptomus poplesia* Clone HA/BU7 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904754](#)

*Centropages furcatus* Clone HA/N2 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904759](#)

*Neocalanus cristatus* Clone HA/N4 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904761](#)

*Eudiptomus* environmental sample Clone HA/N6 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904763](#)

*Cerithidea cingulata* Clone HA/BE2 18S ribosomal RNA

ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904764](#)      gene *GenBank* ACCESSION NUMBER: [KC904766](#)

*Neocalanus cristatus* Clone HA/BE4 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904768](#)      *Neocalanus cristatus* Clone HA/BE5 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904769](#)

*Eudiptomus* environmental sample Clone HA/BE6 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904770](#)      *Eudiptomus* environmental sample Clone HA/BE7 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904771](#)

*Eudiptomus* environmental sample Clone HA/BE8 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904772](#)      *Eudiptomus* environmental sample Clone HA/BE9 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904773](#)

*Eudiptomus* environmental sample Clone HA/BE10 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904774](#)      *Eudiptomus* environmental sample Clone HA/BE11 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904775](#)

*Neocalanus cristatus* Clone HA/BA1 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904776](#)      *Eudiptomus* environmental sample Clone HA/BA2 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904777](#)

*Neocalanus cristatus* Clone HA/BA3 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904778](#)      *Neocalanus cristatus* Clone HA/BA4 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904779](#)

*Neocalanus cristatus* Clone HA/BA5 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC904780](#)      *Rhodella maculata* Clone HA/EA111 18S ribosomal RNA gene *GenBank* ACCESSION NUMBER: [KC962164](#)